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Research Article

Impact of Academic Self-efficacy, E-learning Adoption and Academic Motivation on Self-rated Academic Performance of University Students

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ABSTRACT

The primary objective of this research was to examine the perception of e-learning among university students, in relation to their skills, learning behaviors, and their levels of academic self-efficacy and motivation under an e-learning environment, and its impact on their academic performance. A sample of 200 undergraduate students from a university of education participated in the study. Utilizing a regression model, it was found that students are more at ease and inclined to learn in an e-learning environment, which improves their comprehension of e-learning, self-efficacy, and motivation for academic performance. The results are significant as they demonstrate the impact of students' academic motivations, self-efficacy and their understanding of e-leaning towards academic performance. The study suggests that for students to perform academically in an e-learning environment, they must possess strong and sharp minds and be able to acquire digital skills. The outcomes of this research can be used to guide the counseling of students, instructors, and directors to enhance the effective implementation of e-learning.

Keywords: Academic Performance, Self-efficacy, E-learning, Learning Behavior, Academic Motivation

1. INTRODUCTION

Lately, HEC has shown a concern with increasing student's academic performance through the usage of technology that provides the latest methods of providing and delivering university instructions (Deng & Tavares, 2013). E-learning environmental factors in universities help us with conveying academic materials, uphold teachers-to-students communication, ease alternative networks, guide progress of students also allow students to take e-learning courses (Islam, 2013). In higher education institutions, experiences of students regarding e-learning favour combined academic experiences for supportable study upgrade because this is applicable both in academic performance as well as in personal life. In higher education institutions the e-learning environment is a study that represents or helps in teaching and study as an education revolution through the advance in technology platforms (Eze, Chinedu-Eze, & Bello, 2018). Major advantages of e-learning surroundings for both teachers and students also for universities are saving

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significant expenses for physical classes and study instruments, adding to the digitalization obviously items to easily share and get education contents whenever and anyplace, and incorporating the worldwide educational landscape (Pham, Limbu, Bui, Nguyen, & Pham, 2019).

Not long ago, technical knowledge operate expertise tests in university of education have followed the changing informative worldview from being instructor prompted getting student focused education methodologies (Ituma, 2011; Olelewe & Agomuo, 2016). In Pakistan, from few years ago students of university of Education (UOE) have been taking part in e-learning courses (NFTP platform) for the purpose of developing high quality learning materials and students focused on their education universities have built an improved learning environment that can be met on various educational requirements (Islam, 2013). For the better understanding, transformation of traditional and physical classes into digital classrooms with the help of high quality e-learning resources (Álvarez, Martín, Fernández-Castro, & Urretavizcaya, 2013).

As a result of face to face communication through digital courses and platforms is offered to the students to get knowledge with passion and getting e-learning experiences (Woods, Baker, & Hopper, 2004). All these ideas represent those traditional activities regarding educational purpose can be increased by using e-learning activities. That's why, in Pakistan universities are putting resources into the advancement of e-learning environmental elements as teachers and students willing toward arrangement, clear transformation or as a strengthening framework to traditional physical courses, grounded on the methodology that is mechanically understandable and students also familiar with such types of learning environment factors (Parkes, Stein, & Reading, 2015). These activities in Pakistan are reviving to go towards universities' struggle by the government policies influencing higher education and the needs of the universities faculty staff or students. Considering teachers and students that when they are taking part in a university e-learning platform, they are looking forward to having insight and certainty utilizing such a kind of learning landscape.

All things considered, university teachers are challenged with unforeseen consequences of students who take part in university e-learning environmental factors comparable as students' blended knowledge of e-learning (Hunley, Krise, Rich, & Schell, 2005; Levy, 2007). For getting a big amount of student's academic performance, e-learning in high level training includes the utilization of advanced innovations to make instruction for mentoring and study, to teach students and to manage the courses (Fry, 2001; Parkes et al., 2015). E-learning has extended due to in advancement of multimedia, hype in the market and innovation in technologies such as internet, social media platforms, tools, smart devices and functionalities of learning activity frameworks (Cidral, Oliveira, Di Felice, & Aparicio, 2018; Eze et al., 2018).

Advancement in e-learning environmental factors at universities all over the world keep on adding to idealizing students' academic performance (Castillo-Merino & Serradell-López, 2014; Naveed, Muhammed, Sanober, Qureshi, & Shah, 2017). Technical tools and frameworks in e-learning environmental factors improve the nature of study and results by providing flexible information and techniques for the demand and wishing of individual students(Means, Toyama, Murphy, & Baki, 2013). From basic assumption of face to face technology guidance to twist give way to utilizing address detainee, online talk, conversation sheets, and interpersonal interaction benefits, the high level training area

takes on integrate study as the standard to enhance the products of using e-learning environmental factors as additional dynamic ways to deal with drive student commitment (López-Pérez, Pérez-López, & Rodríguez-Ariza, 2011). Strangely, these sorts of strong acquisition of e-learning frameworks show blended results for students' academic performance comparable as expanded fulfillment with the education experience (Lyons & Evans, 2013).

By difference, various investigations additionally showed that there was no relationship or a negative connection between fulfillment with e-learning courses and grade point average (Levy, 2007). Or innovation use and understudy grade point average (Hunley et al., 2005). Among students who totally or not entirely access e-learning environmental factors. The justification for the different outcomes might be students' different intensity of mind and technical skills and different qualities, including motivations, self-efficacy, and confidence about utilizing university e-learning technology for academic purpose and success (Roffe, 2002).

2. Literature Review

2.1. Academic Self Efficacy, Achievement Motivations, Adoption of E-Learning and Academic Performance

Grade point average (GPA) is a method of addressing academic performance of students in university, and is a commonplace variable for analyzing the merchandise of instruction tasks. Grade point average (GPA) is a best scale of indicators to the progress of academic performance(Moore & Shulock, 2009). Performance in university will be not entirely settled by to begin with acquired information, abilities to learn, limits, and those bright factors which are connected with time and cash safes dedicated to learning and going to classes (Plant, Ericsson, Hill, & Asberg, 2005). As per (Carini, Kuh, & Klein, 2006) Student's learning interest, abilities to learn digital skills and performance in university represent the positive connection between them. Student's commitment to their connection with study shows an obligation to or hard work association in the climate of academic performance all through a student's whole institute insight (Coates, 2006; Henrie, Halverson, & Graham, 2015). Commitment shows the difficult situation prepared by student's instructively intentional actions and adds to asked academic issues (Kuh, 2001). Student's more profound commitment can lead them to healthy instructive practices, which show to far reaching proficiency (Coates, 2006; Hodge, Wright, & Bennett, 2018).

Performances of university students is anticipated through students e-learning efforts (Chou & Liu, 2005; Goh, Leong, Kasmin, Hii, & Tan, 2017). Through usage of e-learning techniques students showed better results and they were more satisfied with their performances as compared to physical classes (Chou & Liu, 2005). Comparable to bringing about Malaysia were accounted by (Goh et al., 2017). Studies looking at the utilization of e-learning assets for academic performances will more often than not show the absence of understudy gain to online-learning frameworks (Lust, Collazo, Elen, & Clarebout, 2012). In an investigation preliminary, (Kiviniemi, 2014) plan that joined education methods integrating actual and online courses factors better understudy execution.

Online-learning offers getting to know assistance that approves replacements to be greater related with and operates higher in their educational progresses(Islam, 2013). Dedication is big in gaining knowledge point of view, which contains one-on-one, on the

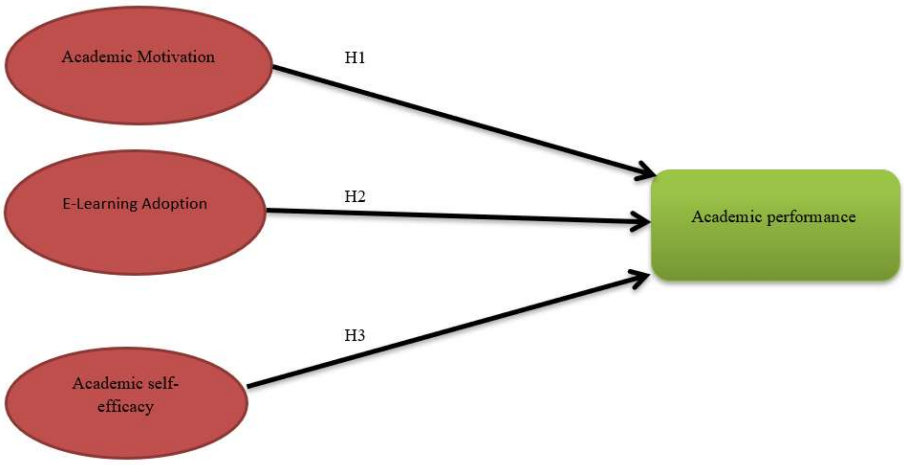
web, and combined techniques (Henrie et al., 2015). Examinations inspecting superior education, academic dedication will in standard be areas of power for academic performance (Carini et al., 2006). In this learning, academic motivation plays an important role as a mediator for university students to support education and the-learning process through the adoption of e-learning in their educational effort to improve their skills as well as their Cumulative grade point average.

2.2. E-Learning Adoption, Academic Self Efficacy and Motivations

Theorists normally focus on academic self-efficacy to explain student's performance and achievement in universities. Understudy self-efficacy is what is going on specific conviction that understudies have on their capacity to organize and execute the activities expected to learn and dominate tasks and tasks at an acceptable level (Schunk & Mullen, 2012). Adoption of e-learning means shift from traditional learning to online through usage of new technology for the-learning perspective (Laurillard, 2006). Fostering an e-learning procedure is fundamental in making a plan that will empower a college, personnel or office to achieve academic goals (Van der Merwe & Engelbrecht, 2003). Motivation is definitely not a solitary build but instead include a wide range of developments like capacity self-ideas, task values, objectives, and accomplishment thought processes (Wigfield & Cambria, 2010). Academic motivation invigorates and coordinates conduct toward accomplishment and along these lines is known to be a significant determinant of scholastic achievement (Robbins et al., 2004). Academic motivation plays an important role as a mediator for university students to support education and the-learning process through the adoption of e-learning in their educational effort to improve their skills as well as their Cumulative grade point average.

2.3. Theoretical Framework

With positive usage of e-learning and motivational support to the students of any field or any kind of institutions (Schools, Colleges and Universities) for the purpose of achieving academic success. The company of a student or group of students can also positively or negatively affect their academic outcomes. Good company of students and motivation directly impact to the performances of the student for getting good grades and CGPA on the other hand no motivation or guidelines for a specific task for a specific student who considered that this task will not perform by them play a negative or bad impact on his academic performance and the result of that particular students may be not too much good as compared to positive thinking students. We propose a research test and model which depends upon four factors.



H1: Academic's motivation is positively connected to academic performance.

H2: Adoption of e-learning is positively connected to academic performance.

H3: Academic self-efficacy is positively connected to academic performance.

3. Research Methodology

In this research, we utilized the cross-sectional study plan. The data was gathered from the representative of education institutions and students. Primary information has been gathered for leading the research study. This research design included three variables, one is Academic self-efficacy, the second is Academic motivation and the third is adoption of e-learning.

3.1. Population and sample size

The main purpose of this study is to understand the relationships between university student's achievement motivations, Adoption of e-learning and academic performance in Pakistan. Responses of approximately 162 students have been collected for the purpose of this study from all the departments of university of education, township campus.

Responses were taken on a five-point scale ranging from 1= strongly disagree to 5= strongly agree. The purpose behind using an already developed scale was that they give more reliable information related to this project. Responses of approximately 162 students have been collected for the purpose of this study. Respondents who did not complete the questionnaire were not included in our research. Data were collected, coded and analyzed using SPSS 25.0 with alpha level of 0.05. Reliability analysis for the item was carried out by calculating Cranbach's. A score of 0.7 and above indicated acceptable reliability of the items. Reliability analysis, descriptive analysis, t-test, and correlation and regression analysis were conducted to analyze the factors: Academic motivation, adoption of e-learning process, and academic self-efficacy towards student's performance.

Table 1

Frequencies and Descriptive

Gender	Frequency	Percent
Male	100	61.7
Female	62	38.3
Total	162	100

	N	Minimum	Maximum	Mean	Std. Deviation
Age	162	16	29	22.0802	1.97807
GPA	161	2.3	4	3.356	0.30627
Semester	162	1	10	6.2284	2.14179

3.2. Research Instruments

Questionnaire was considered as a research instrument that was sent to the university students to collect data. The instrument contains four sections; first were demographic, second was academic motivation, third was adoption of e-learning and fourth was academic performances and evaluation. Instrument tool used for data collection was a questionnaire, an e-learning was assessed by overall e-learning techniques which is the part of a questionnaire developed by Adnan and Anwar (2020).The scale has nine items, all measuring on positive tone. We modified the scale to make it more relevant to education sector. The response is measured on five points like scale from strongly disagree to strongly agree. Cronbach Alpha reliability is (α = 0.785).

The scale of Academic motivation was adopted from Kumashiro, Rusbult, and Finkel (2008). The scale has six items, all measuring on positive tone. We modified the scale to make it more relevant to education sector. The response is measured on five points like scale from strongly disagree to strongly agree. Cronbach Alpha reliability is (α = 0.764).

The scale of Academic performance was adopted from Bandura and Wood (1989). The scale has five items, all measuring on positive tone. We modified the scale to make it more relevant to education sector. The response is measured on five points like scale from strongly disagree to strongly agree. Cronbach Alpha reliability is (α = 0.670).

The scale of Academic self-efficacy adoption was also adopted from Bandura and Wood (1989). The scale has 3 items, all measuring on positive tone. We modified the scale to make it more relevant to education sector. The response is measured on five points like scale from strongly disagree to strongly agree. Cronbach Alpha reliability is (α = 0.749).

3.3 Data Analysis

SPSS 25 ® was used to analyze the data. First, we entered and screened the data for missing values and unengaged responses. Then we analyzed for Cronbach alpha reliabilities. Then we performed descriptive analysis of demographics followed by the descriptive of variables. We calculated correlation values to check the existence of relationship between variables. Finally, we calculated the regression analysis to test the hypothesis

4. Results

4.1. Descriptive Statistics of Study Variables and Correlation

The collected data indicates that all responses are tilt towards Agree and strongly agree with options with low standard deviation values. There is a positive correlation between independent and dependent variables. This positive correlation between academic motivation and e-learning adoption with mean and standard deviation values (M = 3.9095, SD = 0.65766) showing that both the variables are moving in the same direction. There is positive correlation amongst independent and dependent variables.

Table 2

Descriptive statistics of variables

	N	Minimum	Maximum	Mean	Std. Deviation
Academic Motivation	162	1.83	5	4.2685	0.604
E-Learning Adoption	162	1.78	5	3.9095	0.65766
Academic Performance	162	2.2	5	4.1309	0.65383
Academic Self-efficacy	162	1	5	3.6193	0.80874

Table 3

Correlation

	Academic Motivation	E-Learning Adoption	Academic Performance	Academic Self-efficacy
Academic Motivation	1			
E-Learning Adoption	.454**	1		
Academic Performance	.557**	.539**	1	
Academic Self-efficacy	.362**	.219**	.387**	1

** Correlation is significant at the 0.01 level (2-tailed).

The correlation table shows that all the independent variables are positively correlated with academic performance. In addition, we can also see that ELA, academic motivation and academic self-efficacy are correlated with each-other. However, their correlation is below 0.7 which indicate there is no multicollinearity between independent variables.

4.2 Regression

Table 4

Regression results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.667a	0.445	0.435	0.49165

a)Predictors: (Constant), Academic self-efficacy, E-Learning Adoption, Academic Motivation

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.633	3	10.211	42.243	.000b
	Residual	38.192	158	0.242		
	Total	68.826	161			

a) Dependent Variable: Academic Performance

b) Predictors: (Constant), Academic self-efficacy, E-Learning Adoption, Academic Motivation

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.697	0.309		2.252	0.026
	Academic Motivation	0.357	0.076	0.33	4.724	0
	E-Learning Adoption	0.346	0.066	0.348	5.216	0
	Academic self-efficacy	0.155	0.052	0.191	2.999	0.003

Dependent Variable: Academic Performance

The regression results shows that model is significant as P-value for F-test is less than 0.01. The R2 value shows that three independent variables explain 44.5% variance in academic performance. Finally, the coefficients table shown that academic motivation, E-learning adoption and Academic Self-efficacy are significantly related to academic performance. Therefore H1, H2, and H3 are accepted. If Academic's motivation increases by one point, then academic performance increase by 0.357.If Adoption of e-learning increases by one point, then academic performance increase by 0.346.If Academic self-efficacy increases by one point, then academic performance increase by 0.155.

5. Discussion

The objective of this study was to explore and examine the relationship between student's self-efficacy and motivation, between self-efficacy and their academic performance, and between motivation and their academic performance. Self-efficacy provides a useful framework for examining the relationship between students' motivation and their academic performance. All of the three variables (self-efficacy, academic motivation and adoption of e-learning) under the study proved to be significant statistically. The results show that a student's academic performance is affected by motivation and self-efficacy. Self-efficacy is strongly related to motivation. This result is supported by numerous studies (Andrew, 1998; Bandura & Wood, 1989; Pajares, 2002; Schunk, 1991). On the whole; this study reveals that the students who attain the highest level of academic performance are those who are simultaneously high in self-efficacy and in motivation as well.

According to this study, there are some conclusions that can be finalized on the relationship between the academic motivations, self-efficacy and adoption of e-learning toward students' academic performance. With all the findings, we are able to prove the hypothesis and meet the objectives of the research. This study tests the difference between academic motivation and student's performance. The result shows that there was a significant difference between academic motivation and self-rated academic performance results as compared to actual GPA. Based on the analysis, it describes that academic motivations, self-efficacy and adoption of e-learning had significant effects on student's academic performance. This means that high academic motivation of students will give a better result of student's academic performance. Conducive adoption of e-learning process and the student's attitude towards their self believe may have a great impact on their academic performance as mentioned by Iksan, Halim, and Osman (2006).

6. Conclusion

Studying the relationship between academic motivation, academic self-efficacy, and e-learning adoption and academic performance is important for several reasons:

First, understanding the factors that influence academic performance can help educators and policymakers develop effective strategies to improve student achievement. By identifying the specific roles that motivation, self-efficacy, and e-learning adoption play in academic performance, they can design interventions that target these factors specifically.

Second, identifying the relationship between these factors can help educators and students understand how they can improve their own academic performance. For example, if a student has low self-efficacy, they may benefit from interventions that focus on building their confidence in their abilities. Similarly, if a student lacks motivation, they may benefit from strategies that increase their engagement and interest in their studies.

Third, it can help in the development of more effective e-learning systems and strategies. E-learning can be an effective way to improve student engagement and motivation, but it is important to understand how to design and implement these systems in a way that maximizes their benefits.

Fourth, this research can also help in understanding how students adapt to new technologies which is important for the future. With the increasing use of technology in education, it's crucial to understand how students interact with e-learning systems and how it affects their motivation and self-efficacy, and thus their academic performance.

Finally, studying the relationship between these factors can also help to identify and support students who may be at risk of struggling academically. By understanding the factors that contribute to academic performance, educators can be better equipped to identify and support students who may be struggling and help them to succeed.

There are several limitations of the research as well such as collecting data from one university students, use of self-reported academic performance and less females in final sample as compared to males. The future researchers are recommended to overcome these limitations.

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